

### **REMARKS**

Claims 1-19 are pending in the application. Claims 14-17 have been allowed. Claims 1-13 and 18-19 have been rejected.

#### **1. Amended Drawings.**

Figures 1, 2, and 5 have been amended in response to the objections raised in the September 15, 2004 Office Action and corrected drawing sheets for these figures are attached. No new matter has been added. All embodiments shown in the figures are illustrative and are not limiting.

Amended Figures 1 and 2 illustrate: (1) a universal joint 37 which is one example of a flexible joint recited in claims 1 and 7; and (2) shaft 35 which is one example of the front drive (or steering) wheel shaft recited in claims 1, 7, and 14.

Amended Figure 2 illustrates clamp 4 which is one example of how the force conveyance connector recited in claims 3, 9, 13, 14, and 16 can be attached to the sleeve which is disposed for movement on the exterior of the control lever assembly.

Amended Figure 1 illustrates a cable 3 which is one example of the force conveyance connector recited in claims 3, 9, 13, 14, and 16.

Amended Figure 5 illustrates an example of an antirollback disengagement system 87 and related control pin 70 which comprise one example of an anti-rollback disengagement system of claim 14.

Amended Figure 2 illustrates pin 7 which simultaneously engages the sleeve and control lever assembly and is one example of the engager recited in claims 7, 13, and 18.

Amended Figures 1 and 2 illustrates grip 33 that engages both the outer surfaces of the sleeve and control lever assembly and is one example of the grip of claim 5.

Applicant's undersigned counsel respectfully requests that the Examiner inform him immediately if additional drawing revisions are required to overcome the outstanding objections.

#### **2. Specification Amendments.**

The specification has been amended in accordance with the instructions provided in the September 15, 2004 Office Action.

**3. Informalities.**

Claims 1, 5, 7, 11, 13, and 18 have been amended to correct the informalities noted in the September 15, 2004 Office Action.

**4. Written Description.**

Claims 1, 7, 13, 18, and 19 have been rejected under 35 U.S.C. § 112, ¶ 1, for failure to satisfy written description. The Examiner maintains that the specification fails to describe how the propulsive force is increased by changing the effective length of the control lever. The Examiner understands that by varying the length of the control lever, input torque will be affected, but does not understand how this would increase propulsive force. As explained hereinafter, those of ordinary skill in the art would understand the propulsive aspects of the claimed invention from the specification as originally filed.

In the single direction engagement disc apparatus described in the specification as originally filed, when the control lever assembly is pushed forward, the disc rotates in a forward direction to an extent delimited by the tension exerted on the single direction rotating disc by an elastic connection such as a spring, thereby translating forward propulsive force to rear drive wheel shaft. The most efficient translation of propulsive force occurs when the steering column is adjusted to lock the sleeve in a position along the control lever assembly closest to the footrest, e.g. closest to a pivot mounting the control lever assembly on the frame.

Referring to Figure 1, the mechanical advantage of the steering column 1 may varied by adjusting the position of sleeve 2 relative to lever pivot 5. The attached force diagram illustrates this principle as described in the specification as originally filed. Referring to the force diagram, when sleeve 2 is moved closer to lever pivot 5, mechanical advantage is increased by the ratio  $(L/L_1)$ , since  $L_1$  is decreased as sleeve 2 is moved closer to lever pivot 5. Propulsive force  $F_P$  may be defined as:

$$F_P = (F_A) \cdot (L/L_1)$$

where  $F_A$  if the force applied to steering column 1.

When sleeve 2 is moved further away from lever pivot 5, the mechanical advantage is decreased by the ratio  $(L/L_2)$ , since  $L_2$  is increased as sleeve 2 is moved away from lever pivot 5, and the propulsive force  $F_P$  is defined as:

$$F_P = (F_A) \cdot (L/L_2).$$

Therefore, when sleeve 2 is closest to lever pivot 5, control lever assembly 10 affects the highest mechanical advantage, which translates into maximum propulsive force and minimum displacement. This configuration is preferred when an occupant wishes to propel a vehicle of the instant invention up an incline. When sleeve 2 is furthest from lever pivot 5, control lever assembly 10 affects the lowest mechanical advantage, which translates into minimum propulsive force and maximum displacement. This configuration is preferred when an occupant wishes to propel a vehicle of the instant invention on a level or downwardly-sloping surface.

Each of the aforementioned aspects of the claimed invention would have been apparent to those of ordinary skill in the art from the specification as originally filed. Each of the pending claims therefore satisfies written description.

**5. Indefiniteness.**

Claims 5, 8, 11, 12, and 19 have been rejected under 35 U.S.C. § 112, ¶ 2, for indefiniteness. Each of these claims has been amended to address the indefiniteness rejections imposed in the September 15, 2004 Office Action. Each of the claims as amended particularly points out and distinctly claims the invention and satisfies 35 U.S.C. § 112, ¶ 2.

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Based on the foregoing amendments and remarks, each of the pending claims is patentable and is in a condition for allowance. Applicant respectfully requests that each of the pending claims be passed to issue.

Respectfully submitted,



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Attachments: 1. Revised Figures 1, 2, and 5;  
2. Force Diagram